

Carotid endarterectomy with the use of a bovine pericardium patch.

Donatella Riccio*, Karine L. Marioni(1), Alessio Amico(2), Silvia Boni(1)
1 Infection Diseases, 2 Vascular Surgery, S. Andrea Hospital La Spezia Italy

Introduction: Carotid endarterectomy (CEA) is the most commonly performed vascular surgical operation. It has undergone extensive scrutiny, and indications and techniques are standardized. Basically, three types of endarterectomy are performed today: eversion endarterectomy, endarterectomy with direct closure and endarterectomy with patch closure. The last one is the most common, and different patch materials have been used (saphenous vein, jugular vein, PTFE, Dacron). The use of a patch decreases the possibility of a stenosis, but exposes the patient to the risk of prosthetic infection. After the infection of a Dacron patch, we started using a bovine pericardium patch (BPP) and report our experience with it.

Method: We reviewed our experience with CEAs from 2013 to 2016; we treated 151 patients, 68 with eversion endarterectomy and 83 with endarterectomy with BPP. Mean age was 69 years; 71.4 % of patients were asymptomatic, 28.6 % symptomatic, 98 males and 53 females.

Neurologic monitoring was performed with both EEG and NIRS; carotid shunt was never necessary.

Following a protocol created by the Infectious Disease Unit and the Vascular Surgery Unit, patients with eversion endarterectomy received surgical prophylaxis with cefazolin within 30 minutes before incision, while patients undergoing CEA with BPP received both cefazolin and vancomycin (one hour before the incision) in order to prevent staphylococcus aureus meticillin resistant infection.

To decrease the possibility of infection all vascular cases are performed using a trolley with laminar flows, in compliance with the AORN operating theatre standard for SSI prevention

Results: There were no intraoperative problems related to the use of the BPP; surgical times were faster because bleeding after clamp removal was less, and was comparable to those of an eversion endarterectomy. There were no surgical site infections or prosthetic infections.

Conclusions: The use of a bovine pericardium patch during CEA facilitates the procedure because of its ease of handling and decreased bleeding from the suture holes. The theoretical advantage of a higher resistance to infection is borne out by the absence of patch infection in our series. Considering that the bovine pericardium has to be prepared (washing in one liter of normal saline for five minutes) and that usually the decision to use it is made at the last moment, the nurse has to be ready should the need arise.

References: 1) Stroke. 1993 Dec;24(12 Suppl):I24-5; discussion I31-2. The NASCET-ACAS plaque project. North American Symptomatic Carotid Endarterectomy Trial. Asymptomatic Carotid Atherosclerosis Study. Fisher M1, Martin A, Cosgrove M, Norris JW.